

these views should be considered. The engineering evaluation shall be incorporated in the appropriate project development report as specified in the Project Development Procedures Manual.

Based on engineering evaluations, glare screens may be installed on segments or spot locations along frontage roads or at entrance and exit ramps. Chain link fence with slats may be appropriate in these situations.

1. *Thrie Beam Barrier*. Glare screen is not generally used with thrie beam barrier.
2. *Concrete Barrier*. When glare screen is determined appropriate, the standard permanent glare screen for this barrier is concrete glare screen.
3. *Plantings*. Where plantings exist in the median, glare screen may be considered on structures with decked medians. When plantings are not in place but are planned, decked medians may include provisions to accommodate glare screen in the future.

4. *Emergency Openings*. When glare screen is included with the barrier, openings may be provided at approximately 600-foot intervals if requested by the California Highway Patrol. In areas with above average traffic collision rates, openings may be spaced at 300-foot intervals. Spacing may be varied to provide such an opening at each structure crossing over the highway.

#### 7-04.9 Delineation

Commercial retroreflector units are available where it is necessary to provide enhanced delineation along median barriers. Reflective delineation along thrie beam barriers is provided by installing approved retroreflective units on top of the posts. Retroreflective delineation for concrete barriers is obtained by securing approved units to the top of the barrier. For further details regarding delineation for median barriers, please refer to the California MUTCD.

## Section 7-05 -- Crash Cushions

### 7-05.1 Purpose

Crash cushions, also known as impact energy attenuators, are intended to protect a motorist from the consequences of a collision with a fixed object that cannot be removed or where other protective systems are not suitable. A prime example occurs at gores on elevated structures. Here the intersecting structure railings, often with a vertical pier or sign support, create a fixed object.

### 7-05.2 Available Crash Cushion Types

Types currently available include arrays of sand-filled plastic drums and several mechanical

systems relying on a crushable medium and metal deformation, or a compressible hydraulic cylinder to dissipate impact energy. Information about designs and types of crash cushions currently approved for use on California State highways is available from your District Traffic Safety Devices Coordinator, your Headquarters Traffic Operations Liaison or Headquarters' Office of Traffic Safety Program.

### 7-05.3 Placement

Crash cushions should be installed at fixed objects that cannot be economically removed or made breakaway. They should also be installed to shield fixed objects where guardrail is inappropriate.